

What is claimed is:

1. A welding robot for spot welding, comprising:
  - a servo gun provided at a front end of a multi-joint arm, wherein a pair of electrode tips for the spot welding are installed;
  - a control unit for controlling a servo motor of the servo gun in a welding process or a grinding process of the electrode tips; and
  - a dresser for grinding the pair of the electrode tips, the dresser including a servo motor for rotating a grinding cutter,
    - wherein the control unit controls the servo motor of the dresser and controls the servo motor of the servo gun in order to adjust a pressure of the pair of the electrode tips installed in the servo gun with respect to the cutter, and
    - the control unit controls the servo motors of the servo gun and the dresser in a finishing grinding process to the pair of the electrode tips to increase the revolution of the cutter and reduce a pressure to the cutter relative to the revolution and pressure of the cutter during a rough finishing process.